AMENDMENTS TO THE CLAIMS

Claim 1 has been amended. The following is a complete listing of the claims, which replaces all previous versions and listings of the claims.

1. (currently amended) An apparatus, comprising:

a vehicle; and

a control system located in the vehicle, the control system comprising:

a processor,

a wake-up circuit coupled to the processor;

a program utilized by the processor during a standby mode of operation, the program configured to:

provide a voltage to the wake-up circuit for a first time period once an interrupt is received by the processor;

monitor the wake-up circuit for a second time period; and

recalibrate the voltage to the wake-up circuit if a response of the wake-up circuit exceeds at least one predetermined limit.

2. (original) The apparatus, as set forth in claim 1, wherein the control system comprises a remote keyless entry system.

3. (original) The apparatus, as set forth in claim 2, wherein the control system comprises a lock actuator in communication with the processor, wherein the lock actuator is configured to engage and disengage a door lock.

4. (original) The apparatus, as set forth in claim 3, wherein the remote keyless entry system comprises a transceiver module that is coupled to the processor and adapted to receive a signal from a transmitter to activate the lock actuator to unlock the door lock.

5. (original) The apparatus, as set forth in claim 1, wherein the control system comprises a window system.

6. (original) The apparatus, as set forth in claim 5, wherein the window system comprises a motor coupled to the processor and a window, wherein the motor moves the window.

7. (previously presented) An automotive control system, comprising:

a microprocessor,

a wake-up circuit coupled to the microprocessor;

a memory coupled to the microprocessor;

a program within the memory and utilized by the microprocessor, the program configured to:

apply a voltage to the wake-up circuit for a first time period;

measure a response of the wake-up circuit for a second time period;

determine if the response is within a predetermined limit; and

recalibrate the voltage if the response is not within the predetermined limit.

8. (previously presented) The automotive control system, as set forth in claim 7, wherein the program accesses a plurality of stored parameters to determine the voltage.

9. (original) The automotive control system, as set forth in claim 8, wherein the plurality of stored parameters are stored in the memory.

10. (previously presented) The automotive control system, as set forth in claim 7, wherein the recalibration of the voltage updates at least one of a plurality of stored parameters.

11. (original) The automotive control system, as set forth in claim 7, wherein the microprocessor comprises a first port and a second port coupled to the wake-up circuit; and wherein the voltage is provided to the wake-up circuit through the first port and the response is measured from the first port.

12. (previously presented) The automotive control system, as set forth in claim 7, wherein the wake-up circuit comprises:

a first resistor having a first terminal and a second terminal, wherein the first terminal is coupled to ground;

a second resistor having a third terminal coupled directly to the second terminal at a node and a fourth terminal coupled to a first port; and

a capacitor having a fifth terminal coupled to each of the second terminal, the third terminal, and a second port and a sixth terminal coupled to ground.

13. (previously presented) A computer program that is stored on one of more tangible mediums for operating and recalibrating a wake-up circuit, the program comprising:

a routine for applying a voltage to a wake-up circuit for a first time period in response to an interrupt;

a routine for measuring a response of the wake-up circuit for a second time period;

a routine for determining if the response is within a predetermined limit; and

a routine for recalibrating the voltage if the response is not within the predetermined limit.

14. (original) The computer program, as set forth in claim 13, wherein the tangible medium is a memory.

15. (previously presented) The computer program, as set forth in claim 13, comprising a routine for accessing a plurality of stored parameters to determine the voltage.

16. (previously presented) The computer program, as set forth in claim 13, wherein recalibrating comprises updating the voltage if the response is not within the predetermined limit.

17. (original) The computer program, as set forth in claim 13, wherein the routine for applying the voltage is activated by the interrupt received at a processor.

18. (original) The computer program, as set forth in claim 13, wherein the routine for applying the voltage to the wake-up circuit is utilized when a standby mode is indicated by a processor.

19. (original) A method of monitoring a control system, the method comprising the acts of:

providing an interrupt signal to a microprocessor;

measuring a first voltage on a port of the microprocessor connected to a wake-up circuit;

generating an output voltage for a time period on the port;

measuring a second voltage on the port once the output voltage generation stops;

comparing the first voltage and second voltage to at least one stored parameter;

determining if the comparison is within or equal to a predetermined limit; and

recalibrating at least one of the output voltage and time period, if the comparison exceeds the predetermined limit.

20. (original) The method, as set forth in claim 19, comprising providing an interrupt signal to another port of the microprocessor connected to the wake-up circuit.

21. (original) The method, as set forth in claim 19, wherein recalibrating comprises:

reducing the time period stored in memory, if the comparison is greater than the predetermined limit; and

increasing the time period stored in memory, if the comparison is less than the predetermined limit.

22. (original) The method, as set forth in claim 19, wherein the acts are performed in the order recited.

23. (original) The method, as set forth in claim 19, wherein the predetermined limit is stored in a memory coupled to the microprocessor.

24. (original) The method, as set forth in claim 19, comprising recalibrating at least one of the output voltage and the time period once a predetermined number of interrupts have been performed.

25. (previously presented) A method of manufacturing a control system comprising the acts of:

providing a processor;

coupling a wake-up circuit to the processor;

encoding an program to:

provide a voltage to the wake-up circuit for a first time period if a standby mode is indicated;

stop providing the voltage at the end of the first time period;

monitor a response of the wake-up circuit for a second time period; and

recalibrate the voltage if the response exceeds at least one of a plurality of predetermined limitations.

26. (original) The method, as set forth in claim 25, comprising coupling a memory to the processor.

27. (original) The method, as set forth in claim 26, comprising storing the encoded program in the memory.

28. (original) The method, as set forth in claim 25, wherein coupling the wake-up circuit comprises:

coupling a first resistor to a first port and a second port of the processor;

coupling a capacitor and a second resistor in parallel between the first port and a lower voltage potential.

29. (previously presented) A method of monitoring a control system, the method comprising the acts of:

providing an interrupt signal to a microprocessor;

operating the microprocessor to detect a state change for a control system when the interrupt is provided;

determining whether a threshold event has occurred;

recalibrating an output voltage associated with a wake-up circuit, so that the output voltage is within a predetermined limit, if the threshold event has occurred; and

waiting for another interrupt to be provided to the microprocessor, if the threshold event has not occurred.

30. (original) The method, as set forth in claim 29, comprising accessing a switch component to determine whether the state change has occurred.

31. (original) The method, as set forth in claim 29, wherein the threshold event comprises counting the number of times an interrupt has been provided to the microprocessor connected to the wake-up circuit.

32. (original) The method, as set forth in claim 29, wherein the threshold event comprises measuring a time period from the previous calibration of the wake-up circuit.